

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY


(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 26 OCT 2005

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Applicant's or agent's file reference P410283WO		FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. PCT/GB2004/003846		International filing date (day/month/year) 09.09.2004	Priority date (day/month/year) 09.09.2003	
International Patent Classification (IPC) or national classification and IPC F15D1/12, F16L1/12, E02D5/60, B63B39/00, B63B21/66, B63B21/50, E21B17/01				
Applicant CRP GROUP LIMITED ET AL				
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau a total of 1 sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>				
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application</p>				
Date of submission of the demand 02.03.2005		Date of completion of this report 24.10.2005		
Name and mailing address of the international preliminary examining authority:  European Patent Office - Gitschiner Str. 103 D-10958 Berlin Tel. +49 30 25901 - 0 Fax: +49 30 25901 - 840		Authorized Officer Sleightholme-Albanis Telephone No. +49 30 25901-509		



**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/GB2004/003846

Box No. 1 Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

Description, Pages

1-9 as originally filed

Claims, Pages

11 as originally filed

10 received on 02.03.2005 with letter of 01.03.2005

Drawings, Sheets

1/2, 2/2 as originally filed

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/GB2004/003846

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-11
	No: Claims	
Inventive step (IS)	Yes: Claims	1-11
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-11
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

- 1 The following documents are referred to in this communication:
D1 : US 6 401 646 B1 (EDFELDT MICHAEL P ET AL) 11 June 2002 (2002-06-11)
- 2 INDEPENDENT CLAIM 1
 - 2.1 Document D1 discloses a vortex-induced-vibration suppression cladding section from which the subject matter of claim 1 differs in that the cladding section comprises a rotational moulding with an outer layer incorporating anti-fouling material and an inner structural layer.
 - 2.2 The subject-matter of claim 1 is therefore new (Article 33(2) PCT).
 - 2.3 The problem to be solved by the present invention may therefore be regarded as to provide a vortex-induced-vibration suppression cladding section which is straightforward and economical to manufacture and install, and by which marine fouling is inhibited.
 - 2.4 The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:
 - 2.5 From the cited prior art it is not obvious to the skilled person to provide, in combination, the cladding section of D1 with two layers, with anti-fouling material localised in the outer layer, and to manufacture the section by rotational moulding. This has the advantage of reduced manufacturing expense.
 - 2.6 Claims 2 - 6 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

3 INDEPENDENT CLAIM 7

3.1 By a reasoning similar to that for claim 1, the subject-matter of claim 7 satisfies the criteria of Article 33(1) PCT since the subject-matter is new (Article 33(2) PCT) and involves an inventive step (Article 33(3) PCT).

3.2 Claims 8 and 9 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

Re Item VIII.

Claims 10 and 11 contain references to the description and the drawings. According to Rule 6.2(a) PCT, claims should not contain such references except where absolutely necessary, which is not the case here.

CLAIMS

(38)

1. A vortex induced vibration suppression cladding section for mounting upon an elongate underwater member, the section comprising a plastics rotational moulding shaped to provide a tubular portion for receiving the member, the tubular portion being split along its length and being deformable to permit the member to be introduced into the tubular portion, the cladding section comprising at its exterior at least one feature shaped to suppress vortex induced vibration, and the cladding comprising an outer layer incorporating anti-fouling material and an inner structural layer.
2. A cladding section as claimed in claim 1 which is a rotational moulding.
3. A cladding section as claimed in claim 1 or claim 2 wherein the vortex induced vibration suppression feature is a hollow projection.
4. A cladding section as claimed in claim 3 wherein the feature is an elongate hollow strake.
5. A cladding section as claimed in any preceding claim which comprises polyethylene.
6. A cladding section as claimed in any preceding claim, end portions of